

CLAIMS

1. An information recording medium comprising:
a plurality of record information recording areas for recording
5 therein record information;

a management information recording area for recording
therein a plurality of management information, each of which
manages respective one of said plurality of record information
recording areas; and

10 a reliability information recording area for recording therein a
plurality of reliability information, each of which indicates reliability
of whether or not respective one of the plurality of management
information is correctly updated.

15 2. The information recording medium according to claim 1,
wherein the plurality of reliability information is collectively
recorded in said reliability information recording area.

3. The information recording medium according to claim 1,
20 wherein said management information recording area and said
reliability information recording area are unified.

4. The information recording medium according to claim 1,
wherein the plurality of management information includes at least
25 one information out of space bitmap information for identifying an
already recorded state or an unrecorded state with respect to each

block of said record information recording area, defect list information for performing defect management, and OPC pointer information for identifying a position at which next trial writing is performed.

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5. The information recording medium according to claim 1, wherein the management information and the reliability information are written in a table format for each management information.

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6. The information recording medium according to claim 1, wherein the reliability information includes an inconsistency flag which indicates that the management information and a recording state of the record information recording area managed by the management information are inconsistent.

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7. The information recording medium according to claim 6, wherein

said information recording medium comprises a plurality of recording layers, and

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the reliability information includes the inconsistency flag for each of the plurality of recording layers.

8. The information recording medium according to claim 7, wherein

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said management information is space bitmap information for identifying an already recorded state or an unrecorded state with

respect to each block of said record information recording area, and
the reliability information includes the inconsistency flag
which indicates inconsistency of the space bitmap information.

5 9. An information recording apparatus comprising:

a recording device capable of recording the record information
onto the information recording medium according to claim 1;

a reading device for reading the reliability information from
said reliability information recording area;

10 a determining device for determining the management
information corresponding to the reliability information read by said
reading device; and

a controlling device for controlling said recording device to
record the record information on the basis of the determined
15 management information.

10. The information recording apparatus according to claim 9,
further comprising:

a first updating device for temporarily updating the reliability
20 information corresponding to the determined management
information to indicate that the reliability information is not
reliable;

a verifying device for verifying said record information
recording area managed by the determined management information;
25 and

a second updating device for correctly updating the

management information after the verification by said verifying device is completed, and definitely updating the reliability information corresponding to the updated management information to indicate that the reliability information is reliable.

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11. An information recording apparatus for recording record information onto an information recording medium comprising: a plurality of record information recording areas for recording therein the record information; a management information recording area for recording therein a plurality of management information, each of which manages respective one of said plurality of record information recording areas; and an inconsistency flag recording area for recording therein an inconsistency flag indicating whether or not each of the plurality of management information is correctly updated,

said information recording apparatus comprising:

a record information recording device for recording the record information;

a management information recording device for recording the management information; and

a inconsistency flag recording device for recording the inconsistency flag,

said inconsistency flag recording device recording one symbol information indicating an inconsistency condition as the inconsistency flag before starting the recording by said management information recording device.

12. The information recording apparatus according to claim 11,
wherein

said inconsistency flag recording device records another
5 symbol information indicating a consistency condition as the
inconsistency flag after ending the recording by said management
information recording device.

13. An information recording method in an information recording
10 apparatus comprising a recording device capable of recording the
record information onto the information recording medium according
to claim 1,

said information recording method comprising:

a reading process of reading the reliability information from
15 said reliability information recording area;

a determining process of determining the management
information corresponding to the reliability information read by said
reading process; and

a controlling process of controlling said recording device to
20 record the record information on the basis of the determined
management information.

14. The information recording method according to claim 13,
further comprising:

25 a first updating process of temporarily updating the reliability
information corresponding to the determined management

information to indicate that the reliability information is not reliable;

a verifying process of verifying said record information recording area managed by the determined management information;

5 and

a second updating process of correctly updating the management information after the verification by said verifying process is completed, and definitely updating the reliability information corresponding to the updated management information

10 to indicate that the reliability information is reliable.

15. An information recording method in an information recording apparatus for recording record information onto an information recording medium comprising: a plurality of record information recording areas for recording therein the record information; a management information recording area for recording therein a plurality of management information, each of which manages respective one of said plurality of record information recording areas; and an inconsistency flag recording area for recording therein an inconsistency flag indicating whether or not each of the plurality of management information is correctly updated,

said information recording method comprising:

a record information recording process of recording the record information;

25 a management information recording process of recording the management information; and

an inconsistency flag recording process of recording the inconsistency flag,

said inconsistency flag recording process recording one symbol information indicating an inconsistency condition as the
5 inconsistency flag before starting the recording by said management information recording device.

16. The information recording method according to claim 15,
10 wherein

said inconsistency flag recording process records another symbol information indicating a consistency condition as the inconsistency flag after ending the recording by said management information recording process.

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17. A computer program of instructions for tangibly embodying a program of instructions executable by a computer provided in the information recording apparatus according to any one of claims 9 to 12, to make the computer function as at least one portion of the
20 reading device, the determining device, the controlling device, and the recording device.